(51) International Patent Classification⁷: G06F 17/60

(21) International Application Number: PCT/AU99/01103

(22) International Filing Date:
13 December 1999 (13.12.1999)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PQ 2810   14 September 1999 (14.09.1999)   AU

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(81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— With international search report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A METHOD OF MONITORING INTERNET ACTIVITY
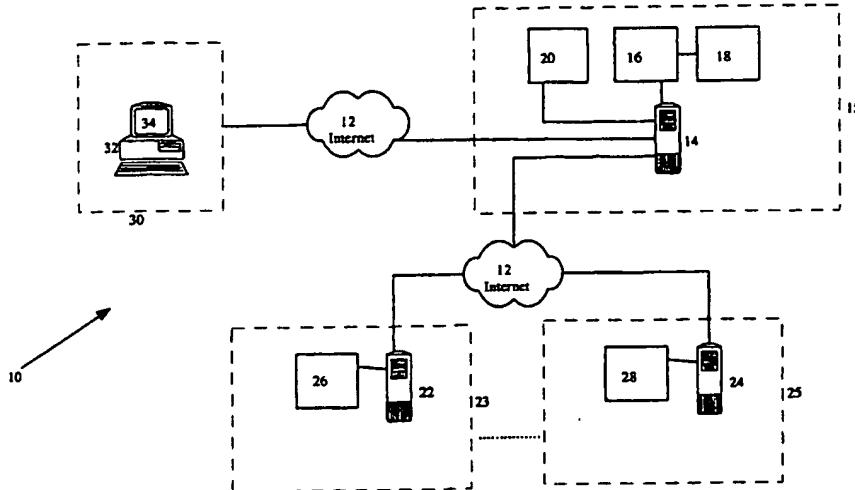
(57) Abstract: The invention relates to computer system (10) for monitoring Internet activity of a client (30) downloading a web page (26, 28) of an Affiliate server (22, 24) via a proxy server (14) which supports a host web site (20). The proxy server (14) is associated with an application program (16) which filters HTML code from client (30) and Affiliate server (22, 24). The application program (16) remaps pointers from the Affiliate HTML code to the local proxy server (14) in addition to storing the Affiliate HTML code locally. The client (30) then receives the locally stored HTML code and the application program monitors the exchange of HTML data between the client (30) and proxy server (14). In the event of a monetary purchase by the client (30), the transaction amount is detected during filtering by the application program (16) and the value stored in a data base (18).

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A Method of Monitoring Internet Activity

Field of the invention

This invention relates to the field of Internet electronic commerce and, in particular, to a system for monitoring Internet activity of a client's access of a host Internet site.

Background of the invention

The Internet is rapidly changing the way the world communicates and conducts business. There continues to be an exponential increase in the number of users which purchase and sell goods and services via this medium.

It is estimated that in 1990 there are some 200 million users of the Internet worldwide and it is expected that there shall be at least 300 million users of the Internet worldwide by the year 2005. Certainly this growth will continue after this time and with it, the number of websites accessible via the Internet. Likewise, it is expected that there will be a like increase in the number of commercial websites which are maintained by business' which offer goods and services for sale via the Internet.

While the potential market for businesses offering goods and services over the Internet is enormous due to the large number of web users, a successful commercial web site must often still rely on referrals and advertising to sell goods and so that Internet users know of the web sites.

Referrals and advertising can be carried out on other popular web site hosts by providing links on these sites to the commercial site. For example, a business may wish to advertise their commercial web site on a popular web site such as **www.hotmail.com**, which is a free web-based email service maintained by Microsoft Corporation Inc. Hotmail.com is used by millions of Internet users to access free web-based email, which makes advertising on this site attractive to many businesses which engage in ecommerce. In this regard, advertising space is offered on the website and there is typically a hypertext link or link object displayed which links the hotmail page to the website of the business which is being advertised.

The ecommerce business which advertises its web site on the host web site will usually pay the operators of the host website a commission fee for each web user which accesses the company's website via the host web page. Additionally, the Internet business may offer a

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commission to the host website based upon the amount of money which a web user spends on the goods or services of the Internet business.

A problem with this arrangement however is that it is not easy for an operator of a host website to quantify the commission that they are owed if they are not aware of either the number of executed links or the amount of sales their web site has generated for the ecommerce business through advertising on the host site.

Summary of the invention

The invention provides a system for monitoring information data comprising:

proxy server means;

data control means associated with the proxy server means;

a user access means connectable to the proxy server means for display of information data; and

a plurality of affiliate server means adapted to contain information data, the affiliate server means connectable to the proxy server means,

wherein, the proxy server means receives requests for information data from said user access means and said proxy server means obtains said information data from an affiliate server means, said information data including a series of data pointers to other information data, and

wherein the data control means records the information data on the proxy server and remaps the data pointers within the information data to point to pointer addresses stored on said proxy server means so as to produce remapped information data and forwards said remapped information data to said user access means for display of said remapped information data.

Preferably when said proxy server means further downloads predetermined ones of said other information data and stores said predetermined ones of said other information data at said pointer addresses on said proxy server.

Preferably said information data comprises hypertext markup language pages. Preferably the user computer access means requests information data from the proxy server, the request is recorded by the data control means.

Preferably when that request for information data involves a monetary transaction amount, that monetary transaction amount is recorded by the data control means.

Preferably a commission value is calculated by the data control means according to a defined formula which is dependent upon the monetary transaction amount.

Preferably the proxy server. user access means and the plurality of affiliate server means are connect via a computer network. communication of information on the network being achieved according to a predefined set of network protocols.

Preferably the user access means is an worldwide Internet browser for located on a user computer which is connectable to the proxy server.

Preferably the data pointers link to Uniform Resource Locater addresses which contain the information data and which are associated with the affiliate server means.

Preferably the proxy server is assigned a proxy server Uniform Resource Locater address.

Preferably the data control means includes a computer program which records the Hypertext Markup Language text files on the proxy server.

According to a second aspect of the present invention, there is provided a method for monitoring information data over a network comprising the steps of:

allowing a proxy server to receive requests for information data from one or more client users, the information data including a series of data pointers to other information data;

permitting the proxy server to obtain the information data from an affiliate server means;

recording the information data on the proxy server and remapping the data pointers within the information data to point to pointer addresses stored on the proxy server so as to produce remapped information data and forward the remapped information data to the client user for display of the remapped information data thereto.

The method may further include the step of allowing the proxy server to further download predetermined ones of the other information data and to store the predetermined ones of said other information data at the pointer addresses on the proxy server. Furthermore, when the request involves a monetary transaction, the method may further include the step of recording the amount of the monetary transaction.

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Optionally, the method further includes the step of calculating a commission value according to a defined formula that is dependent upon the monetary transaction amount.

Where in the specification the word "comprising" or "comprised" is used, unless otherwise stated explicitly, the scope of the word is to be construed broadly such that it has an inclusive meaning rather than an exclusive meaning.

Brief description of the drawings

Notwithstanding any other forms which may fall within the scope of the present invention, preferred forms of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Fig. 1 shows an information flow diagram of a system in accordance with the present invention; and

Fig. 2 shows the steps involved in monitoring the activity of a client in conducting a transaction over the Internet with an Affiliate web site.

Detailed description of the embodiments

The embodiment here described relates to a computer system for monitoring Internet activity of a client downloading the web page of an Affiliate server via a proxy server which supports a host web site. The proxy server is associated with an application program which filters HTML code from the client and Affiliate server. The application program remaps pointers from the Affiliate HTML code to the local proxy server in addition to storing the Affiliate HTML code locally. The client then receives the locally stored HTML code and the application program monitors the exchange of HTML data between the client and proxy server.

Referring to Figure 1, there is shown a system 10 for monitoring information data over the Internet 12 in accordance with the preferred embodiment.

The system 10 includes a host web site operator 15 having a proxy server 14 which receives instructions from a data control means in the form of application program 16. The application program 16 also includes a database 18 for the storage of data, and there is a host website 20 which is also supported by the proxy server and is accessible from the Internet 12.

The proxy server 14 is connectable to a predetermined number of Affiliate servers 22 and 24 which support web pages 26 and 28 respectively. The web pages 26 and 28 are

commercial web pages, in that regard they may offer goods and services for sale over the Internet and these web sites are maintained by Affiliate businesses 23, 25.

Each web pages 26, 28 is identified in the usual manner by a unique Uniform Resource Locater (URL) address which is used by a web client to download the web page. Likewise, the host website 20 of the proxy server is assigned its own URL from which Internet users can access the web site.

An Internet user is shown generally in the form of client 30 and has access to personal computer 32 which is connectible to the proxy server 14 via the Internet 12. Although not shown in Figure 1, the client's 30 Internet access is facilitated by an Internet Service Provider (ISP). In another embodiment, the client may not be a personal computer operated by a single user, but a server connecting a network of computers behind a firewall or alternatively, the client may be a mobile unit having Wireless Application Protocol (WAP). Other commonly known Internet access arrangements are also possible.

The client 30 can view the content of the host website 20 by using web browser 34 in the standard manner, which is supported by the client computer 32. The client inputs into the web browser 34, the unique URL for the host website 20 (ie. HTTP//www.hostwebsite.com), which sends instructions to the proxy server 14.

Upon the proxy server receiving instructions to download the content of the web site 20, the HTML code which supports the web site 20 is transferred via the Internet 12 to the client computer 32. The client computer 32 interacts with the web browser 34 to create a visual display of the host website 20 on a computer monitor screen (not shown), for access by the user.

The host website 20 displays a home page (not shown) which accommodates a number of hypertext links or object links to the client's web browser 34 when the client has downloaded the web site.

When a client 30 connects to the proxy server 14 via the Internet 12 and downloads the web page 20, a log of this event is recorded by the application program 16, which also stores the URL of the client 30 within the database 18.

Also shown in Figure 1 are links from the proxy server 14 to Affiliate server 22 and Affiliate server 24. Each Affiliate server 22, 24 respectively supports commercial web sites 26, 28, which offer goods for sale to Internet users.

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In this instance, the host web site operator 15 has entered into a contractual arrangement with each of the businesses which support the commercial web pages 26 and 28, so that any access to the Affiliate web pages 26 or 28 via the host website 20, will result in payment of a "finder's fee" to the host web site operator 15. If that access results in a monetary transaction

5   between the client 30 and the business which supports the Affiliate web page 26 or 28 (ie a sale to the client 30 by the businesses), then a commission fee will be paid to the host web site operator 15, as will be explained below.

Referring now to Figure 2 there is shown the various stages of a monetary transaction for the system shown and described above in Figure 1.

10   Now referring to Figures 1 and 2:

Stage 50

The client 30 connects to the proxy server 14 and downloads the web page from web site 20 as previously described above.

Stage 52

15   The client 30 selects using their web browser 34, a hypertext link which tags the Affiliate 22 server URL (ie www.Affiliateserver22.com) which exists on the web page.

Stage 54

This request for the Affiliate server 22 URL is registered by the application program 16 upon receipt by the proxy server 14.

20   The requested Affiliate 22 URL is recorded by the application program 16 in the application program database 18. This information can be used to record the number of requests for Affiliate server's 22 URL, and this information can be used to calculate the "finder's fee" according to the predefined agreement between the host web site operator 15 and the business 23 which supports the affiliate web pages 26.

25   ### Stage 56

The application program 16 through the proxy server 14, connects via the Internet 12 to the Affiliate server 22 and requests (ie downloads) the Affiliate web page HTML code which supports web pages of the Affiliate web site 26.

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The proxy server changes the Affiliate HTML code of the affiliate web page 26 by altering or re-mapping any URL's in the downloaded HTML code so that they point locally to the proxy server 14. The proxy server 14 performs parsing and translating of the HTML code to create a new HTML page.

The proxy server 14 also stores locally any images (ie such as .GIF type files) associated with the downloaded Affiliate HTML code so that the Affiliate HTML code points to images stored locally on the proxy server. Additionally, image SRC tags, frame SRC tags and anchor HREF links are also translated or downloaded by the proxy server 14 so as to point to local locations on the proxy server 14.

The proxy server 14 forwards the newly generated HTML page to the host website 20.

In this way, the host web site operator 15 is able to maintain control and monitor all the Internet activity which is occurring on the host website 20 by the client 30 in a seamless manner to the user. Meanwhile, the application program monitors client 30 interacting over the Internet with the Affiliate server 22.

Further, when a user attempts to access a hypertext link, it will point to a location on the proxy server 14. Upon access the application program 16 iteratively applies the remapping process as outlined above.

Stage 58

The client views the HTML code downloaded from the Affiliate web page 26 via the proxy server 14.

Stage 60

As the application program 16 is able to fully monitor the client 30 interacting over the web, it is possible to calculate the commission generated on these sales and also to calculate the finder's fee or the advertising fee which is generated according to the frequency of access of the Affiliate server 22 by the client 30.

If the client 30 chooses to purchase the goods displayed on the Affiliate web page of web site 26, then they may order these goods by making appropriate selections.

This request is sent by the client 30 via the web browser 34 to the proxy server 14 by the Internet 12.

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The application program 16 receives the request in the form of HTML code and filters this code to search for any transaction variables which have been sent from the client 30 for the proxy server 22.

In this example of the invention, the application program 16 detects the purchase amount during filtering of the HTML code:

INPUT TYPE = HIDDEN NAME = TotalAmt VALUE = 2290

The application program 16 records this value of 2290 in the application program database 18.

Stage 62

The application program 16 relays the purchase request in the form of the HTML code to the Affiliate server 22 via the Internet 12.

Stage 64

The application program 16 recalls from the database, the dollar amount 2290 and determines the commission which the host web site operator 15 should receive as a result of the transaction, from the business which operates the Affiliate server 22.

For example, the host web site operator 15 may receive 15% of all sales generated through the transactions between a client and the Affiliate server 22, in which the client has accessed the Affiliate server 22 via proxy server 14.

Although the particular embodiment shown in Fig. 1 only shows one client 30 interacting with the proxy server 14, it will be appreciated that in addition to the client 30, anyone of a number of Internet users may access the proxy server 14.

Additionally, although only two of the Affiliate servers are shown in Figure 1, this has been for convenience of illustration only and any one of a number of Affiliate servers could have a pre-arrangement with the proxy server 14 whereby there is a link on the host website 20 to the particular Affiliate server.

It would be appreciated by a person skilled in the art that numerous variations and/or modifications may be made to the present invention as shown in the specific embodiments without departing from the spirit or scope of the invention as broadly described. The present embodiments are therefore, to be considered in all respects to be illustrative and not restrictive.

Claims

1. A system for monitoring information data comprising:

    proxy server means;

    data control means associated with the proxy server means;

5   a user access means connectable to the proxy server means for display of information data; and

    a plurality of affiliate server means adapted to contain information data, the affiliate server means connectable to the proxy server means,

    wherein, the proxy server means receives requests for information data from said user access
10   means and said proxy server means obtains said information data from an affiliate server means, said information data including a series of data pointers to other information data, and

    wherein the data control means records the information data on the proxy server and remaps the data pointers within the information data to point to pointer addresses stored on said
15   proxy server means so as to produce remapped information data and forwards said remapped information data to said user access means for display of said remapped information data.

2. A system as claimed in claim 1 wherein said proxy server means further downloads predetermined ones of said other information data and stores said predetermined ones of
20   said other information data at said pointer addresses on said proxy server.

3. A system as claimed in any previous claim wherein said information data comprises hypertext markup language pages.

4. A system according to any one of the preceding claims, wherein when the user computer access means requests information data from the proxy server, the request is recorded by
25   the data control means.

5. A system according to claim 4, wherein when that request for information data involves a monetary transaction amount, that monetary transaction amount is recorded by the data control means.

6.   A system according to claim 5, wherein a commission value is calculated by the data control means according to a defined formula which is dependent upon the monetary transaction amount.

7.   A system according to any one of the preceding claims, wherein the proxy server, user access means and the plurality of affiliate server means are connect via a computer network, communication of information on the network being achieved according to a predefined set of network protocols.

8.   A system according to any one of the preceding claims, wherein the user access means is an worldwide Internet browser for located on a user computer which is connectable to the proxy server.

9.   A system according to any one of the preceding claims, wherein the data pointers link to Uniform Resource Locater addresses which contain the information data and which are associated with the affiliate server means.

10.   A system according to claim 9, wherein the proxy server is assigned a proxy server Uniform Resource Locater address.

11.   A system according to claim 10, wherein the data control means includes a computer program which records the Hypertext Markup Language text files on the proxy server.

12.   A method for monitoring information data over a network comprising the steps of:

      allowing a proxy server to receive requests for information data from one or more client users, the information data including a series of data pointers to other information data;

      permitting the proxy server to obtain the information data from an affiliate server means;

      recording the information data on the proxy server and remapping the data pointers within the information data to point to pointer addresses stored on the proxy server so as to produce remapped information data and forward the remapped information data to the client user for display of the remapped information data thereto.

13.   A method for monitoring information data according to claim 12, wherein the method further includes the step of allowing the proxy server to further download predetermined ones of the other information data and to store the predetermined ones of said other information data at the pointer addresses on the proxy server.

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14.   A method for monitoring information data according to claim 12 or claim 13, wherein when the request involves a monetary transaction, the method further includes the step of recording the amount of the monetary transaction.

15.   A method for monitoring information data according to any one of claims 12 to 14, wherein the method further includes the step of calculating a commission value according to a defined formula that is dependent upon the monetary transaction amount.

FIG 1.
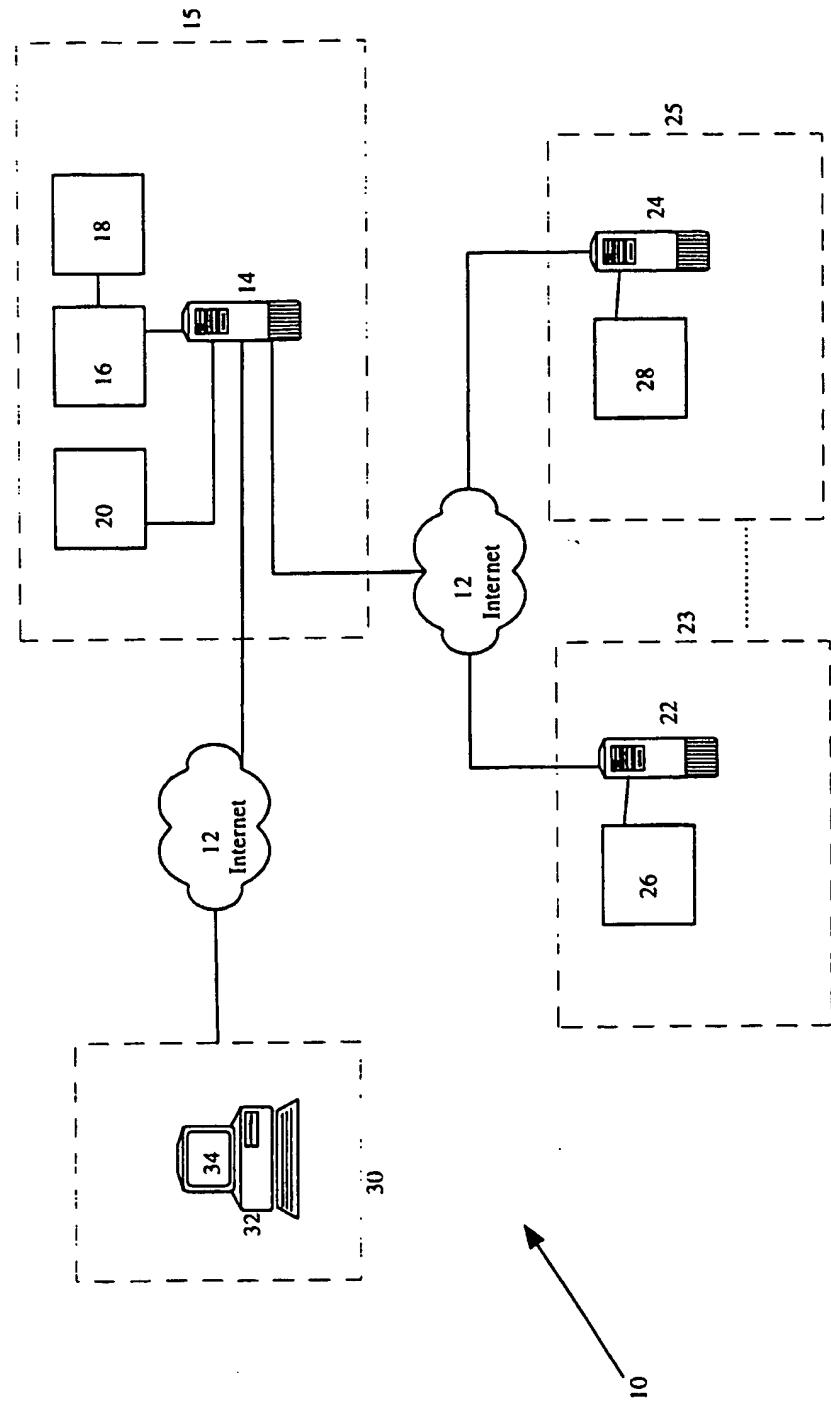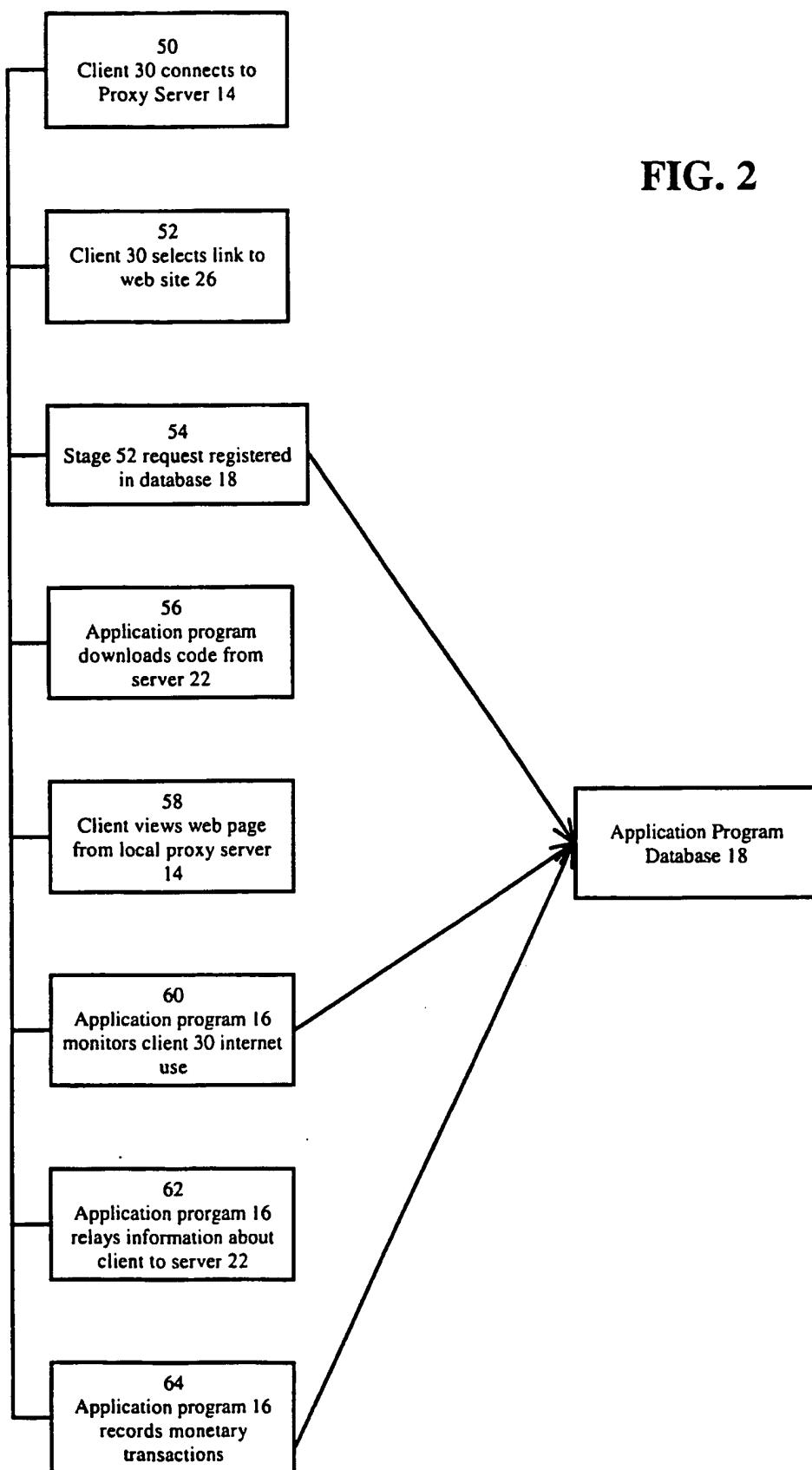
FIG. 2

50
Client 30 connects to
Proxy Server 14

52
Client 30 selects link to
web site 26

54
Stage 52 request registered
in database 18

56
Application program
downloads code from
server 22

58
Client views web page
from local proxy server
14

Application Program
Database 18

60
Application program 16
monitors client 30 internet
use

62
Application prorgam 16
relays information about
client to server 22

64
Application program 16
records monetary
transactions

A.	CLASSIFICATION OF SUBJECT MATTER

Int Cl[7]: G06F 17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B.	FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPAT : keywords

C.	DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 778534 A (Sun Microsystems, Inc.) 11 June 1997 - see whole document	1-15
X	EP 801487 A (AT&T Corp) 15 October 1997 - see whole document	1-15
X	WO 9845793 (Techwave, Inc) 15 October 1998 - see whole document	1-15

☐ Further documents are listed in the continuation of Box C

☒ See patent family annex

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance		
"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed	"&"	document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 February 2000	15 FEB 2000

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INTERNATIONAL SEARCH REPORT
Information on patent family members

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
EP	778534	AU	71855/96	CA	2191671	CN	1157965
		JP	10049425	US	5822539		
EP	801487	CA	2200138	US	5835718		
WO	9845793	AU	69605/98				

END OF ANNEX